The JONES COLORIZER

is first mixe

trols for this mixer

gain, 4) Blue gain, 5)

6) Channel pedestal.

pot on the control

a switch and jac

This firs

set to key f

pulse gen

provide

the t

A	pin 1	~~pedestal~~ clip	1	red
B	pin 2		2	green
C	pin 3		3	red
D	4		4	blue
E	5	videogain	1	black
F	6		2	white
G	7		3	red
H	8		4	yellow
J	9	pedestal	1	green
K	10		2	blue
L	11		3	black
M	12		4	red
N	13	chroma	1	black
P	14		2	orange
R	15		3	red
S	16		4	white
T	17	R	1	red
U	18		2	brown
V	19		3	green
W	20		4	white
X	21	G	1	black
Y	22		2	green
Z	23		3	red
a	24		4	orange
b	25	B	1	black
c	26		2	blue
d	27		3	black
e	28		4	yellow
f	29	video gain out		black

R	15		3	red
S	16		4	white
T	17	R	1	red
U	18		2	brown
V	19		3	green
W	20		4	white
X	21	G	1	black
Y	22		2	green
Z	23		3	red
a	24		4	orange
b	25	B	1	black
c	26		2	blue
d	27		3	black
e	28		4	yellow
f	29	video gain out		black
g	30	pedestal out		brown
h	31			orange.
j	32			
k	33			
l	34	+ 10V		violet / red
m	35	⏚		yellow / green.

1	pin A	clip out 1	black
2	B	2	gray
3	C	3	pink
4	D	4	light brown
5	E		orange.
6	F	+10 V	violet
~~G~~		+	
~~8~~	H		yellow.
9	J		dark brown
~~10~~9	~~J~~K	clip in 1	blue
10	L	2	red
~~12~~11	M	3	green
~~13~~12	N	4	white

(VD)

(HD)

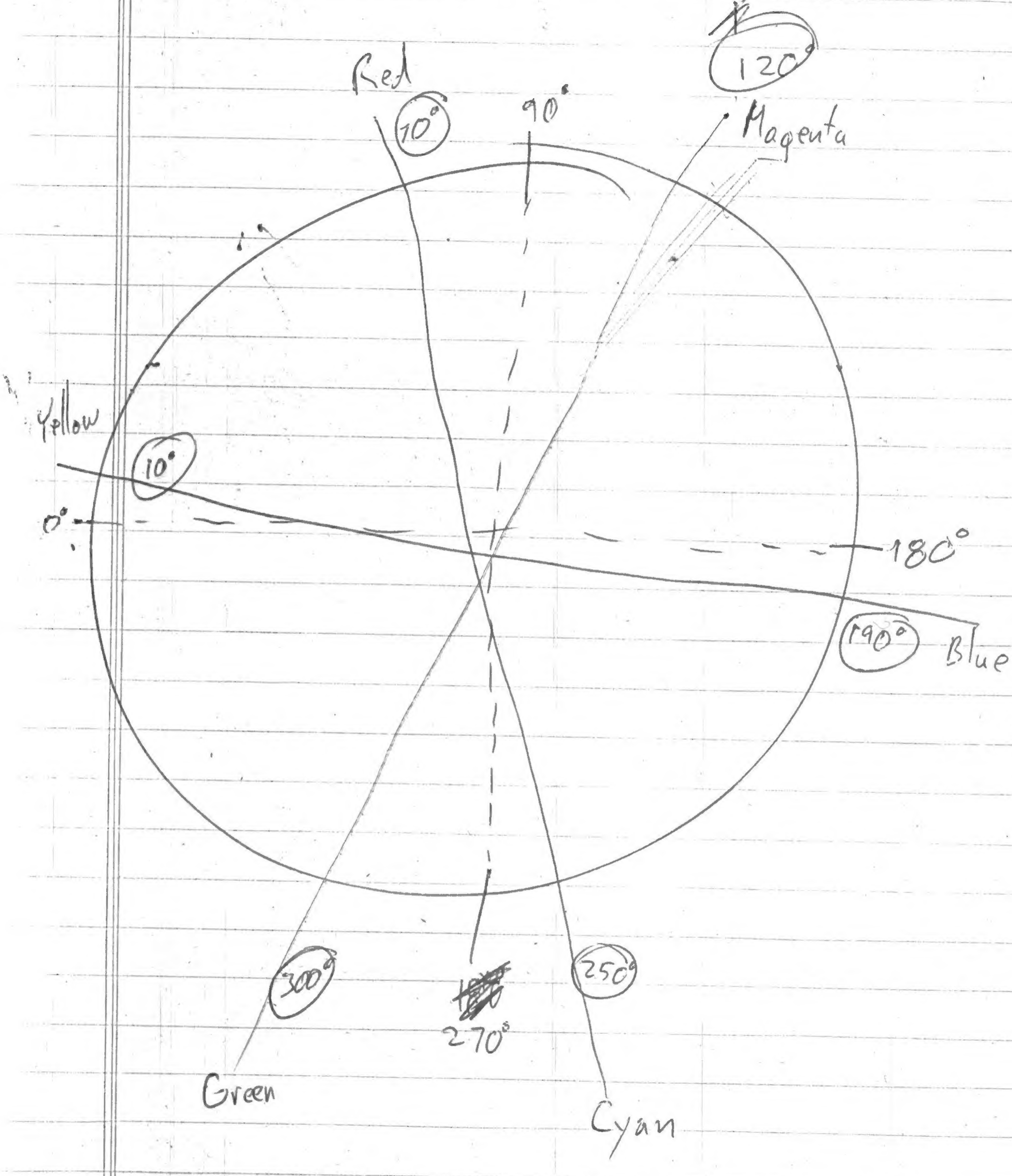
Compos.

B1.

BF

3.58.

3,579,545 HZ



Red
70°
90°
120°
Magenta
Yellow
10°
0°
180°
190°
Blue
300°
270°
250°
Green
Cyan

January 8, '75

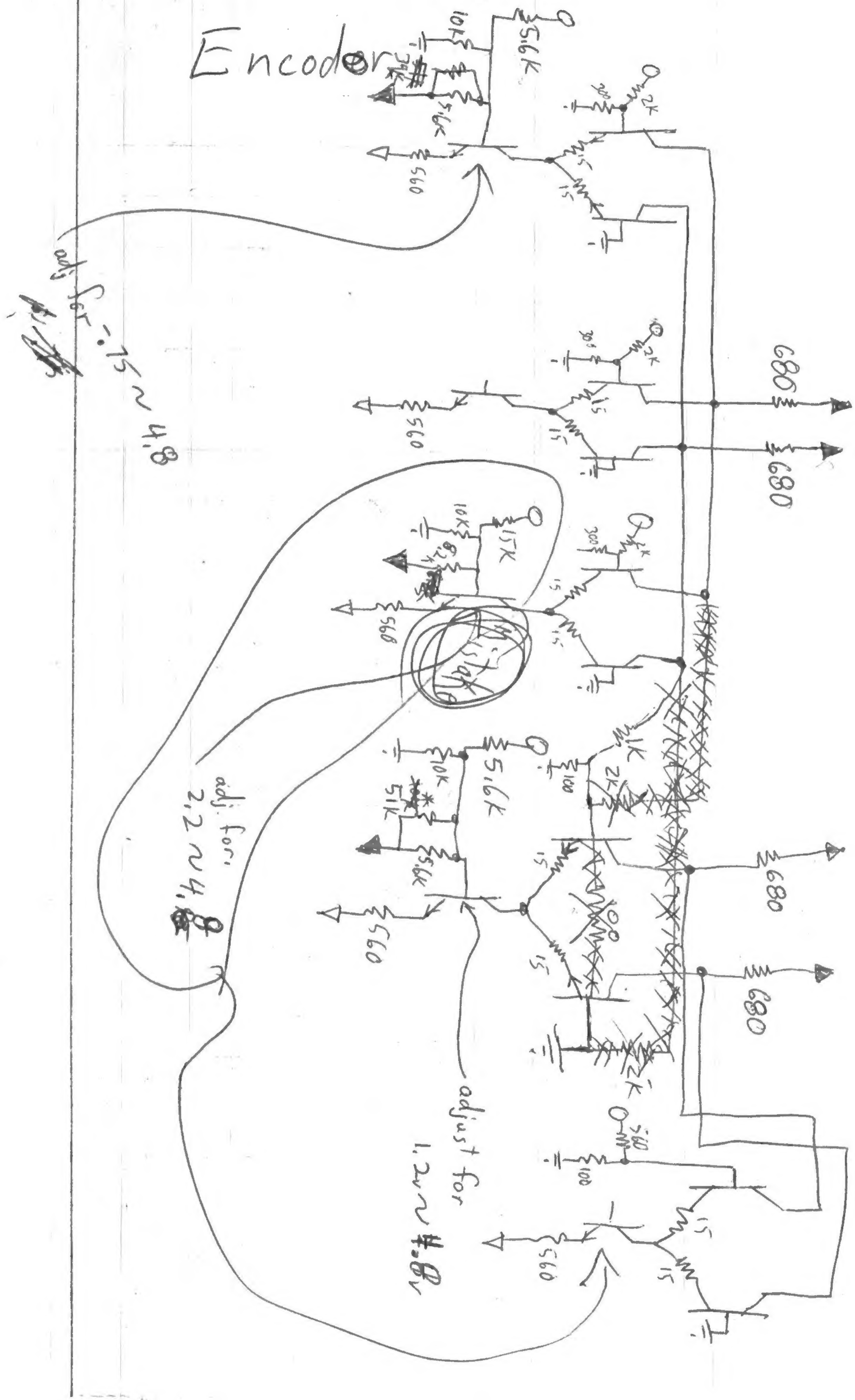
Pin	INPUT 1	INPUT 2	INPUT 3	INPUT 4	Mix	Output	Sync Proc
1	BUSED	BUSED	BUSED	BUSED	BUSED	⏚	—
2	BUSED	BUSED	BUSED	BUSED	BUSED	Unreg. +15 VDC	—
3	clip 1 pulse out	clip 2 pulse OUT	clip 3 pulse out	clip 4 pulse out			
4	Bused	Bused	Bused	Bused	Bused	Bused	+12
5	Blanking from pin 17 output Board	Blanking from pin 17 output Board	Blanking from pin 17 output Board	Blanking from pin 17 output Board			
6	Video 1 IN	Video 2 IN	Video 3 IN	Video 4 IN			3.58 IN
7	Clip 1 Voltage	Clip 2 Voltage	Clip 3 Voltage	Clip 4 Voltage		Output A	To pin 11 output Board (3.58)
8	clip 1 pulse IN	clip 2 pulse IN	clip 3 pulse IN	clip 4 pulse IN		⏚ ~~Output B~~	
9	3.58 Red IN FROM pin 9 Sync Board	~~Red 3.58 IN From~~				output B	Red out
10	#1 Red Level Voltage	#2 Red Level Voltage	#3 Red Level Voltage	#4 Red level Voltage		⏚	Blue ~~Green~~ out
11	3.58 Blue in from pin 10 Sync Board					3.58	~~Blue~~ Green out
12	⏚	⏚	⏚	⏚	⏚	⏚	⏚
13	#1 Blue level Voltage	#2 Blue level Voltage	#3 Blue level Voltage	#4 Blue level Voltage		B.F.	B.F. IN
14	3.58 Green in from pin 11 Sync Board					⏚	To pin 13 of output Board (B.F.)
15	#1 Green level Voltage	#2 Green level Voltage	#3 Green level Voltage	#4 Green level Voltage		Sync	Sync IN
16	Pedistal 1 Voltage	Pedistal 2 Voltage	Pedistal 3 Voltage	Pedistal 4 Voltage		⏚	
17	Luminance 1 Voltage	Luminance 2 Voltage	Luminance 3 Voltage	Luminance 4 Voltage		Blanking	To pin 15 of output Board (Sync)
18	Chroma 1 Voltage	chroma 2 Voltage	Chroma 3 Voltage	chroma 4 Voltage		⏚	Blanking IN
19	out 1	out 2	out 3	out 4		Video in	to pin 17 of output Board (Blanking)
20	⏚	⏚	⏚	⏚	⏚	⏚	⏚
21	Bused	Bused	Bused	Bused	Bused	Unreg. -15 VDC	UNR. -15
22	⏚	⏚	⏚	⏚	⏚	⏚	⏚

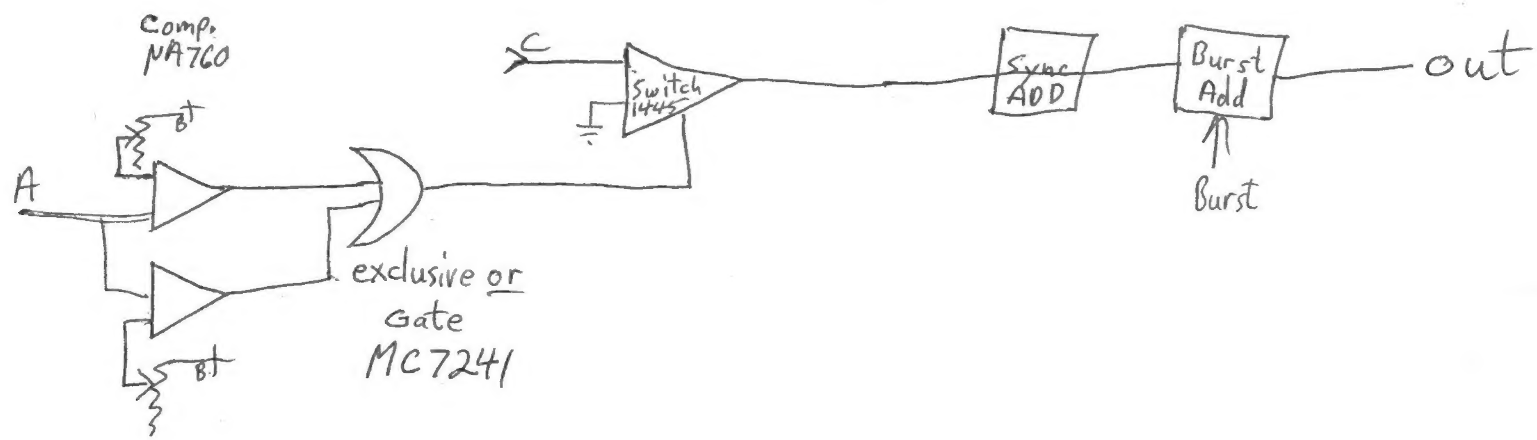
Colorizer as of 1/8/75

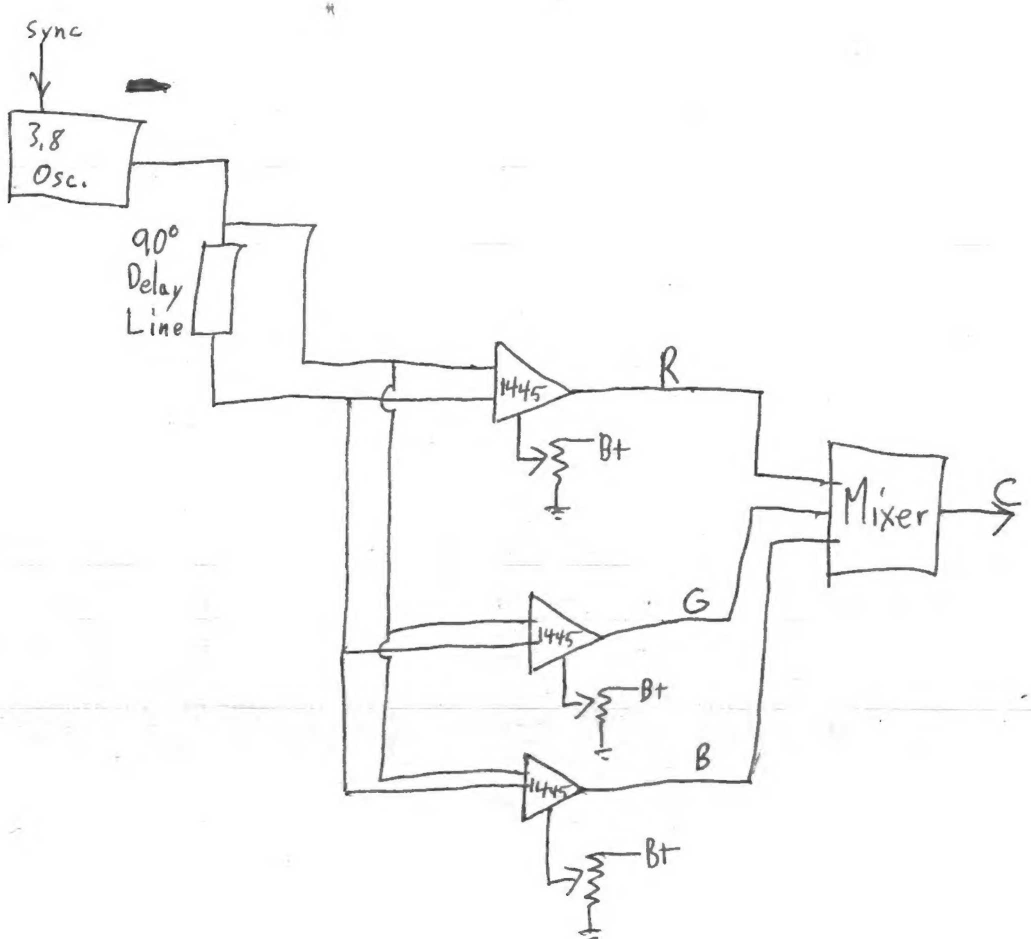
Pin	INPUT Boards 1~4	Mix Board	OutPut Board	Sync Proc
1	⏚	⏚	⏚	⏚
2	unreg. +15	unreg. +15	unreg. +15	unreg. +15
3	clip pulse out			+5 Buss
4	regulated +12 —	From	~~Sync~~ Mix — Board —	
5	~~Blanking From pin 17 of output Board~~			+5 Buss
6	Video IN	⏚		3.058 from Panel
— 7	clip Voltage	Vid out	Output A	To pin 11 output board 3.058
8	clip pulse in	⏚	Red.	⏚
X 9	Red from Sync Board	Vid 1 in	output B	to pin 9 input Board RED
10	Red level Voltage	⏚	⏚	to pin 11 input Board Blue
X 11	Blue from Sync Board	Video ~~Out~~ 2 IN	3.058 from Sync Board	to pin 14 of input Board Green
12	⏚	⏚	⏚	⏚
13	Blue level Voltage	Vid. 3? in	B.F. from Sync Board	B.F. from Panel
X 14	Green from Sync Board	⏚	⏚	to pin 13 output board B.F.
15	Green level Voltage	Vid 4 in	Sync from Sync Board	Composite Sync. from Panel
— 16	Pedistal Voltage	⏚ ~~& Ped~~	⏚	⏚
— 17	Luminance level Voltage	~~Ped 2 in Gain~~	~~Blanking from Sync Board~~	to pin 15 output Board Sync.
— 18	chroma level Voltage	⏚	⏚	Blanking from Panel
19	outputs	~~Vid 4~~ Gain	Video from Mixer	~~to pin 7 of output Board Blanking~~
20	⏚	⏚	⏚	⏚
21	unREG. -15	unreg. -15	unreg. -15	unreg. -15
22	⏚	⏚	⏚	⏚

4/13/75
Dave Jones

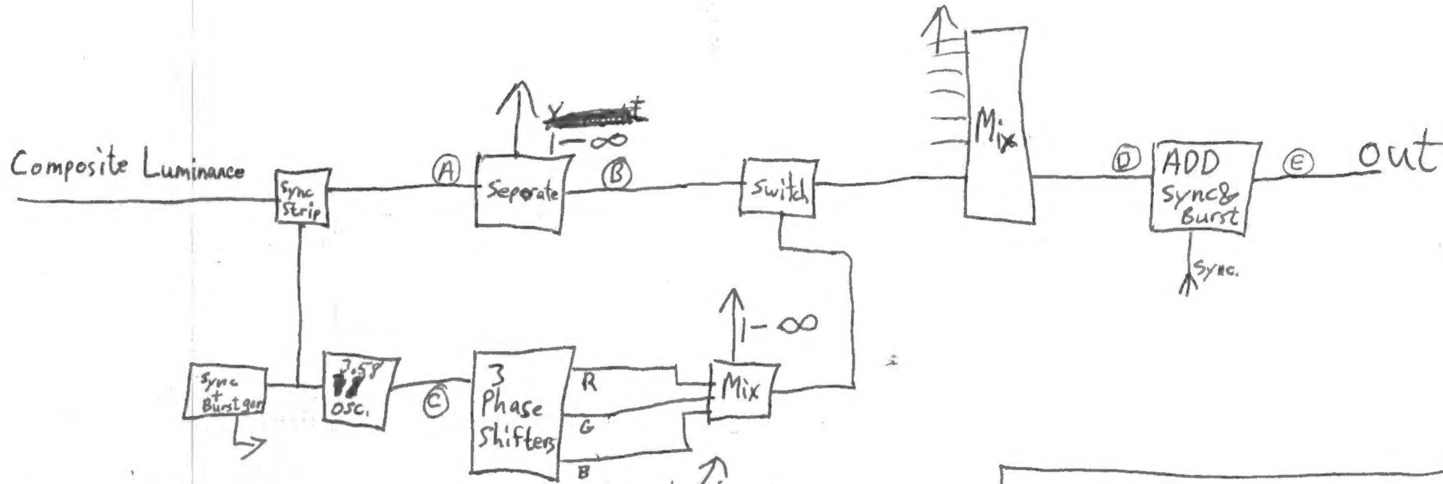
Encoder

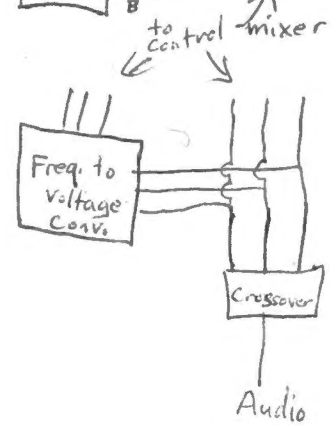


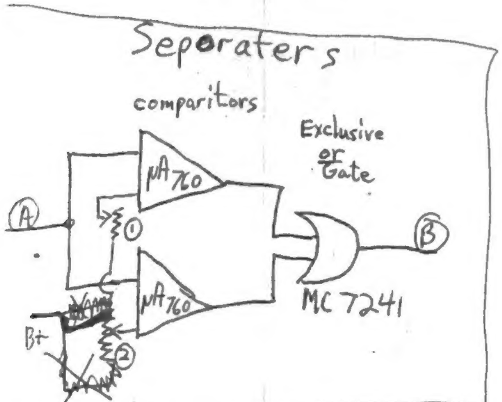

Comp.
NA760
B+
A
B+
exclusive or
Gate
MC7241
C
Switch
1445
Sync
ADD
Burst
Add
Burst
out

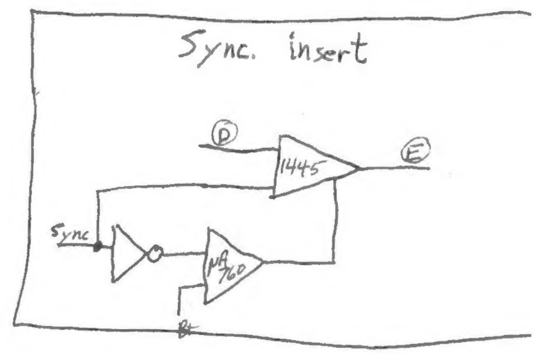

Sync
3.8
Osc.
90°
Delay
Line
1445
R
B+
Mixer
C
1445
G
B+
1445
B
B+

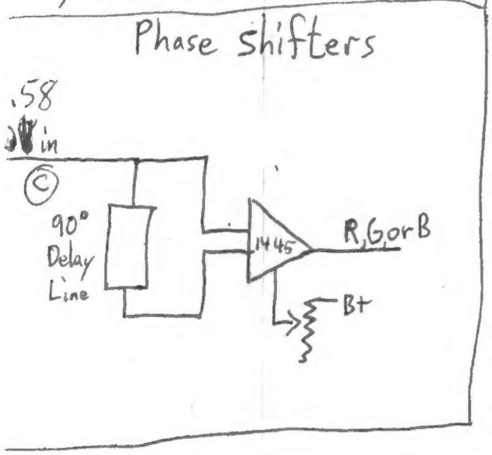
Complete Control Colorizer









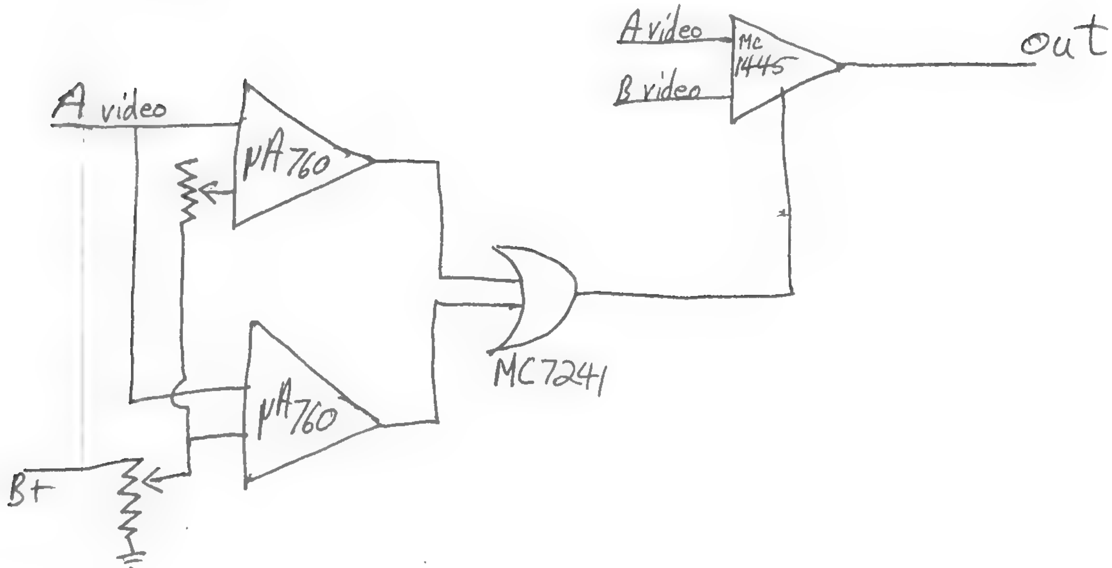


an audio input can control the mixture of collors by frequency change or volume change

Controls ① and ② give you complete control over the size and placement of the grey levels

The R,G,B, mixers will give you complete control over the color added to each level

Selective level Keyer

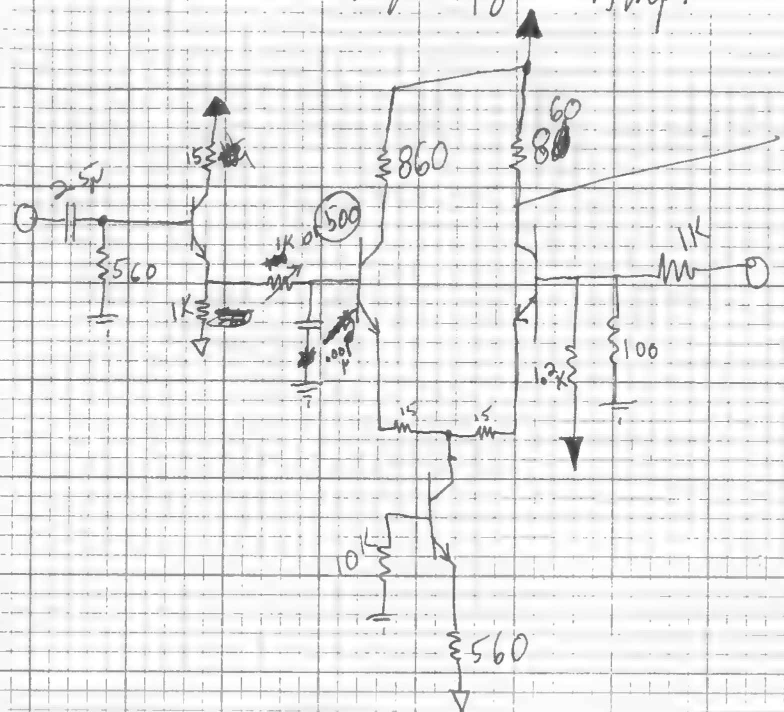


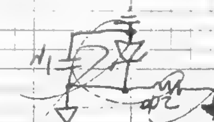
~~Most Keyers place the second image~~

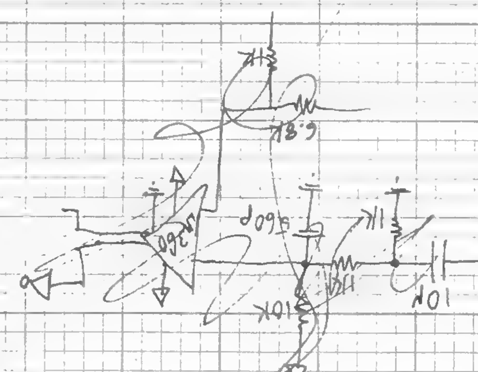
Keyers only allow you to Key over a certain level of the video or higher. for example over anything white or anything light gray or brighter or med. gray or brighter

~~they~~ this Keyer allows you to be selective for example only on 1 shade of gray or everything except Black and white etc.

Comparitor Amp.





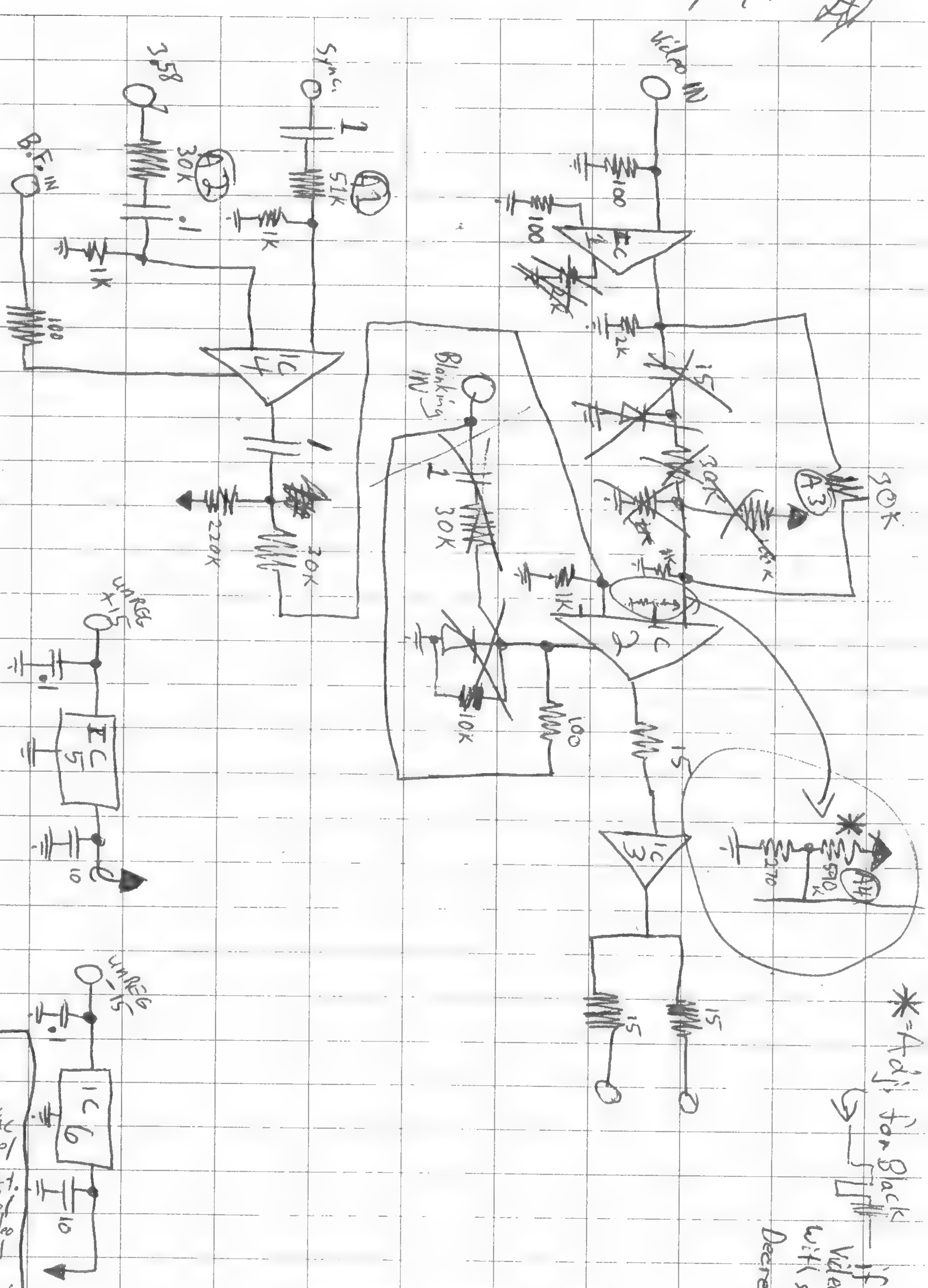


Colorizer #1
Output Board

No good

As of 1/10/75

	Pins
1	⏚
2	UNREG. +15
3	⏚
4	1
5	
6	⏚
7	OUT
8	⏚
9	Out
10	⏚
11	3.58
12	⏚
13	BF
14	⏚
15	Sync
16	⏚
17	Blanking
18	⏚
19	Video IN
20	⏚
21	UNREG -15
22	⏚



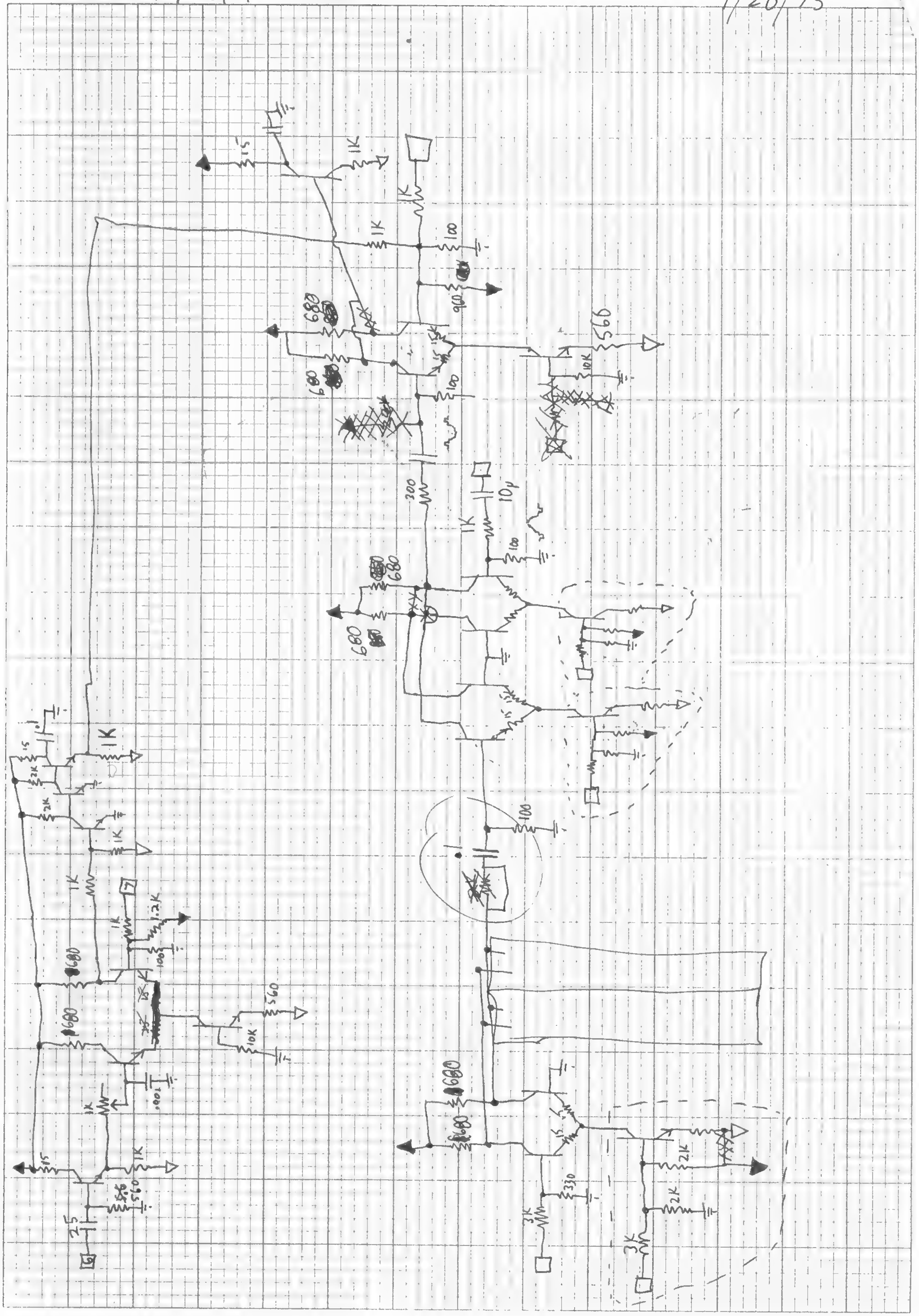
	IC	
1	1410	A1 = Sync Level
2	1445	
3	0002	A2 = Bst. level
4	1445	A3 - Video Level
5	340·K 5.0	A4 - Black level
6	320·K 5.2	

* = Adj. for Black

If Video interferes with sync. Decrease Resistor

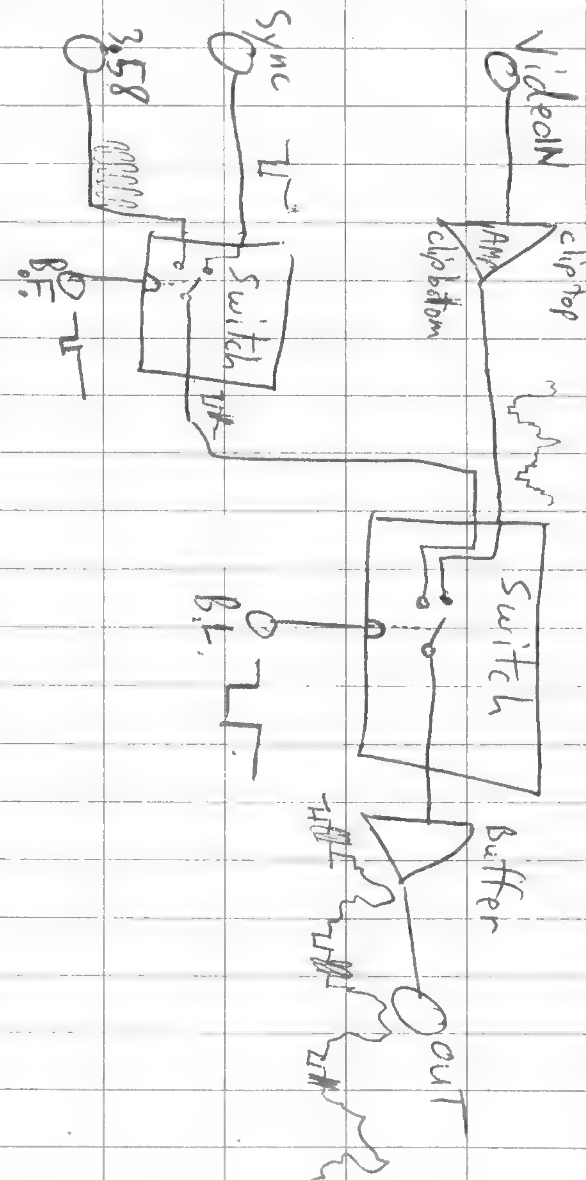
INPUT w. filter

4/28/75



Colorizer #1 output Board Logic

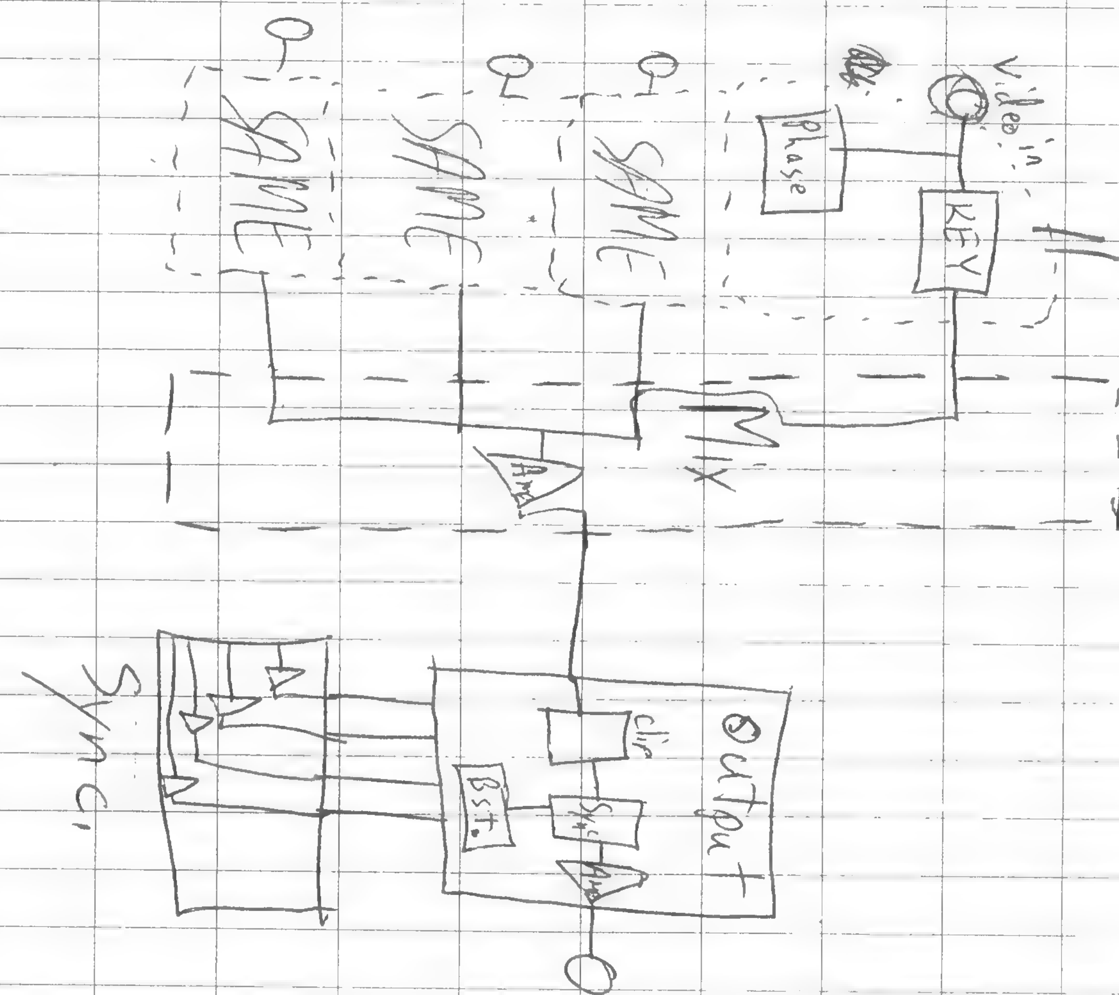
1/11/75



NATIONAL 42-383

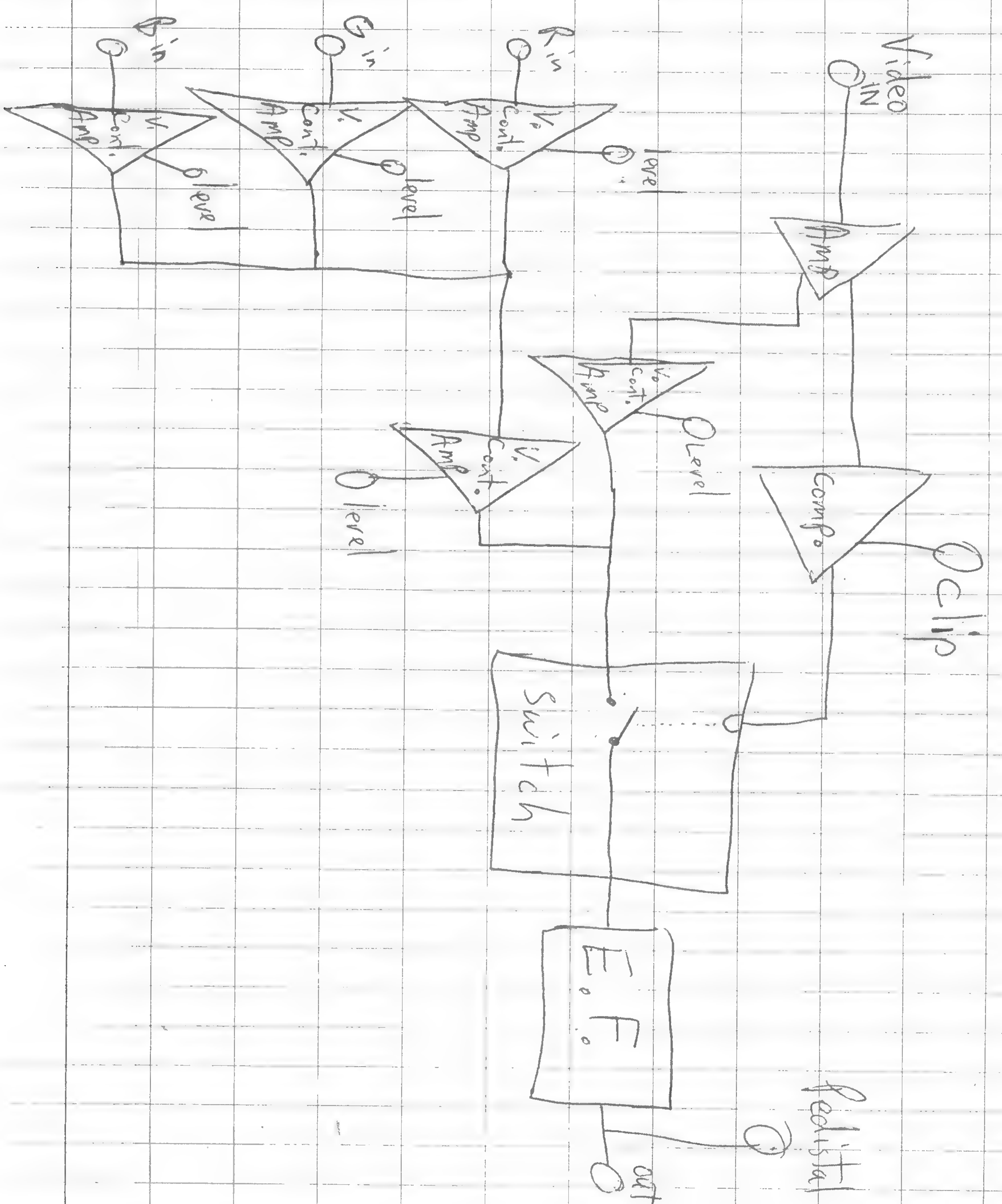
Colorizer #1 Logic

1/11/75



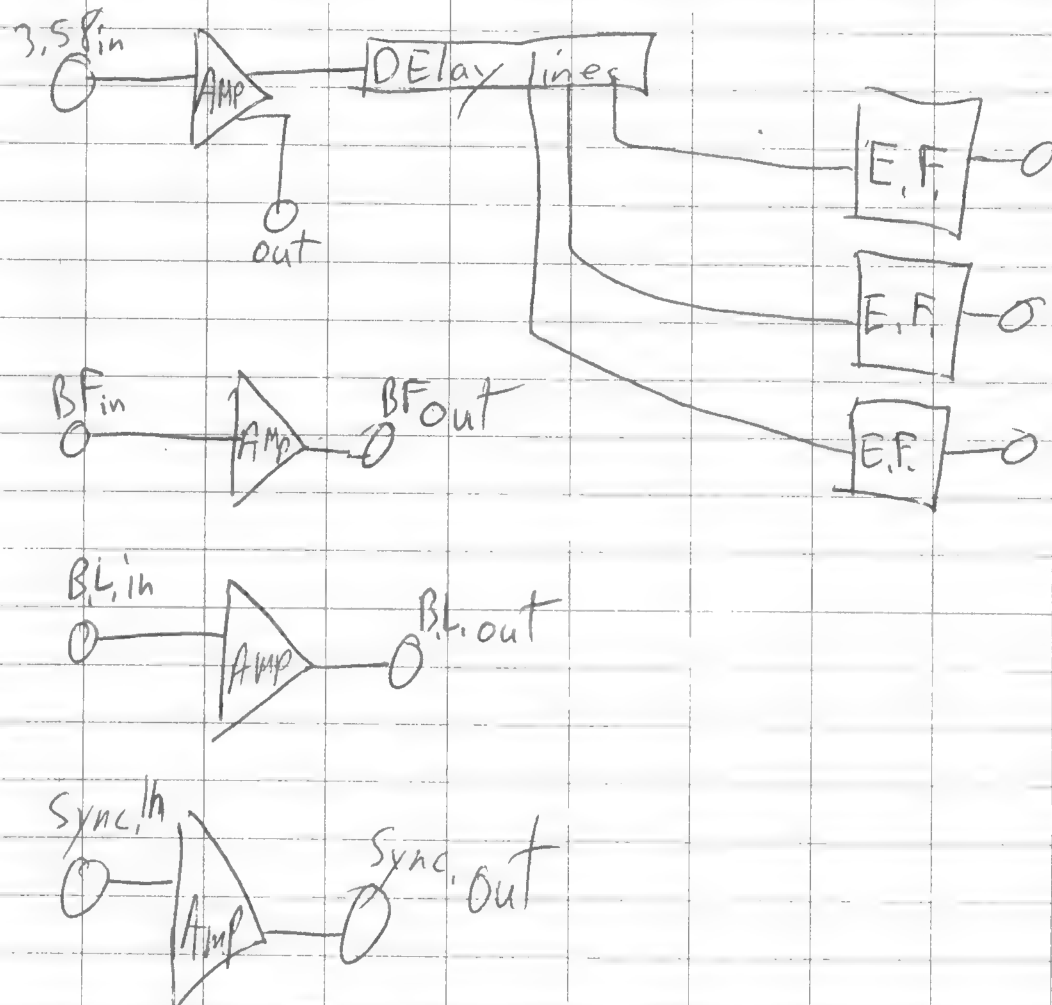
Colorizer #1 1/11/75

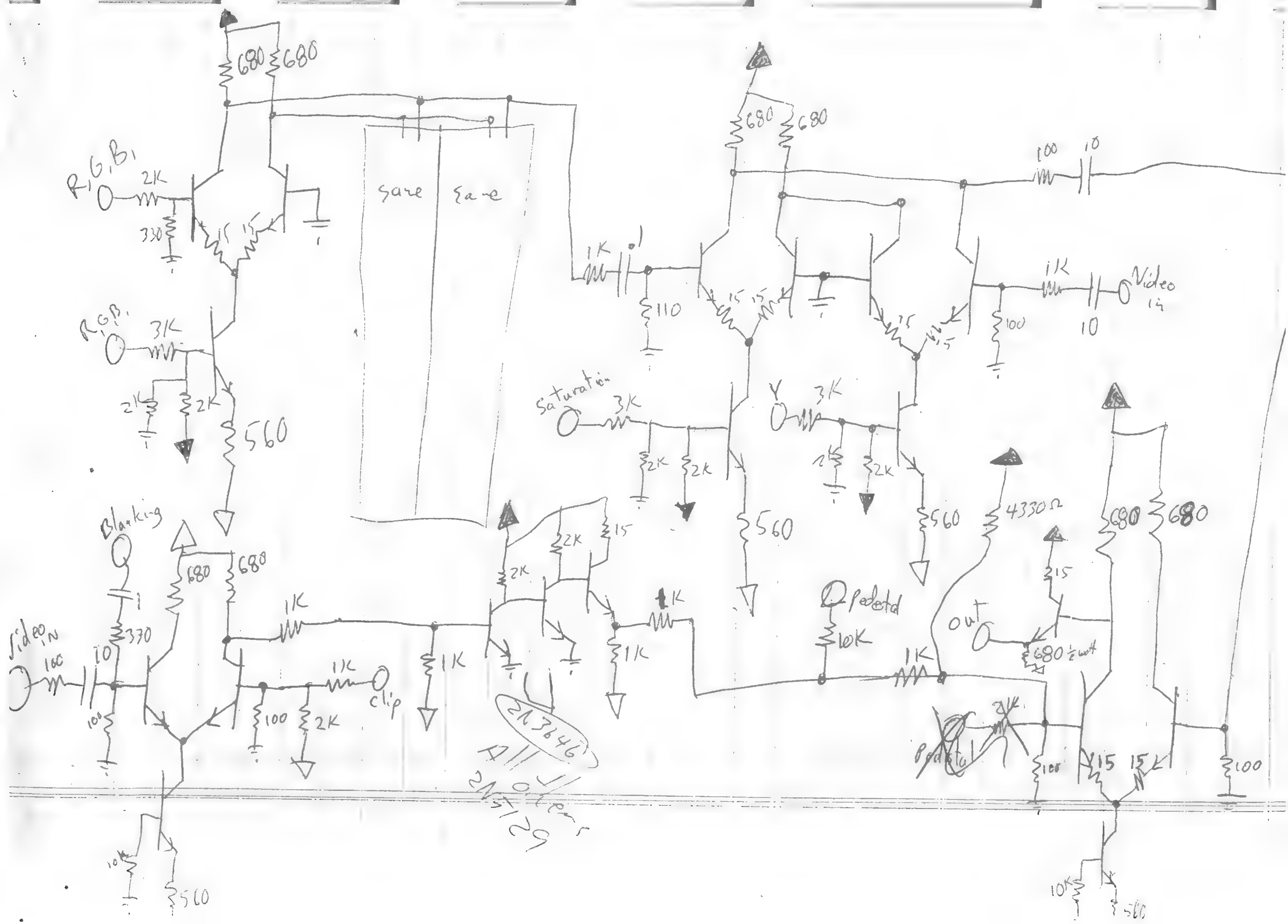
Input Board Logic



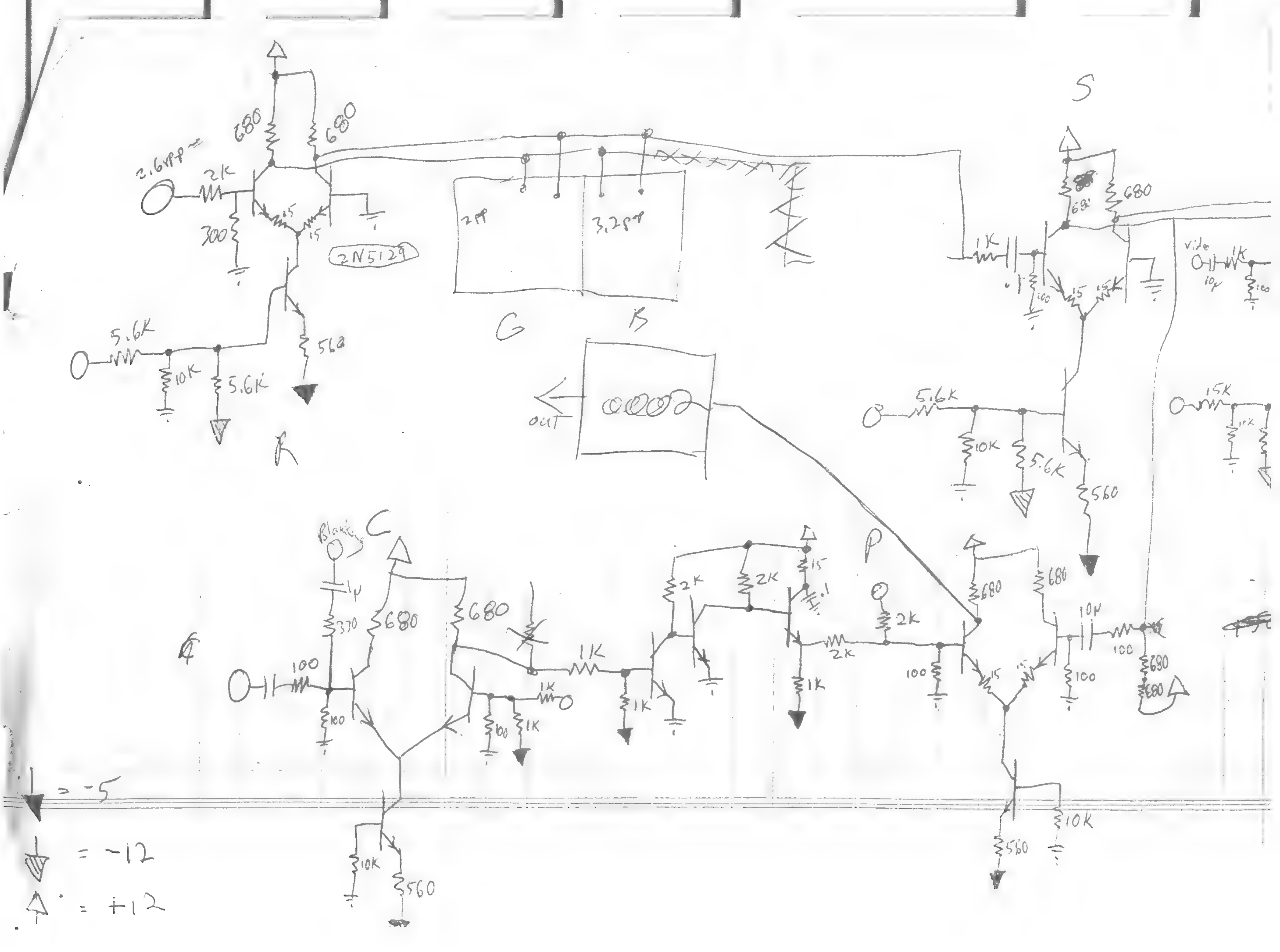
Colorizer #1 1/11/75

Sync. Board **Logic**

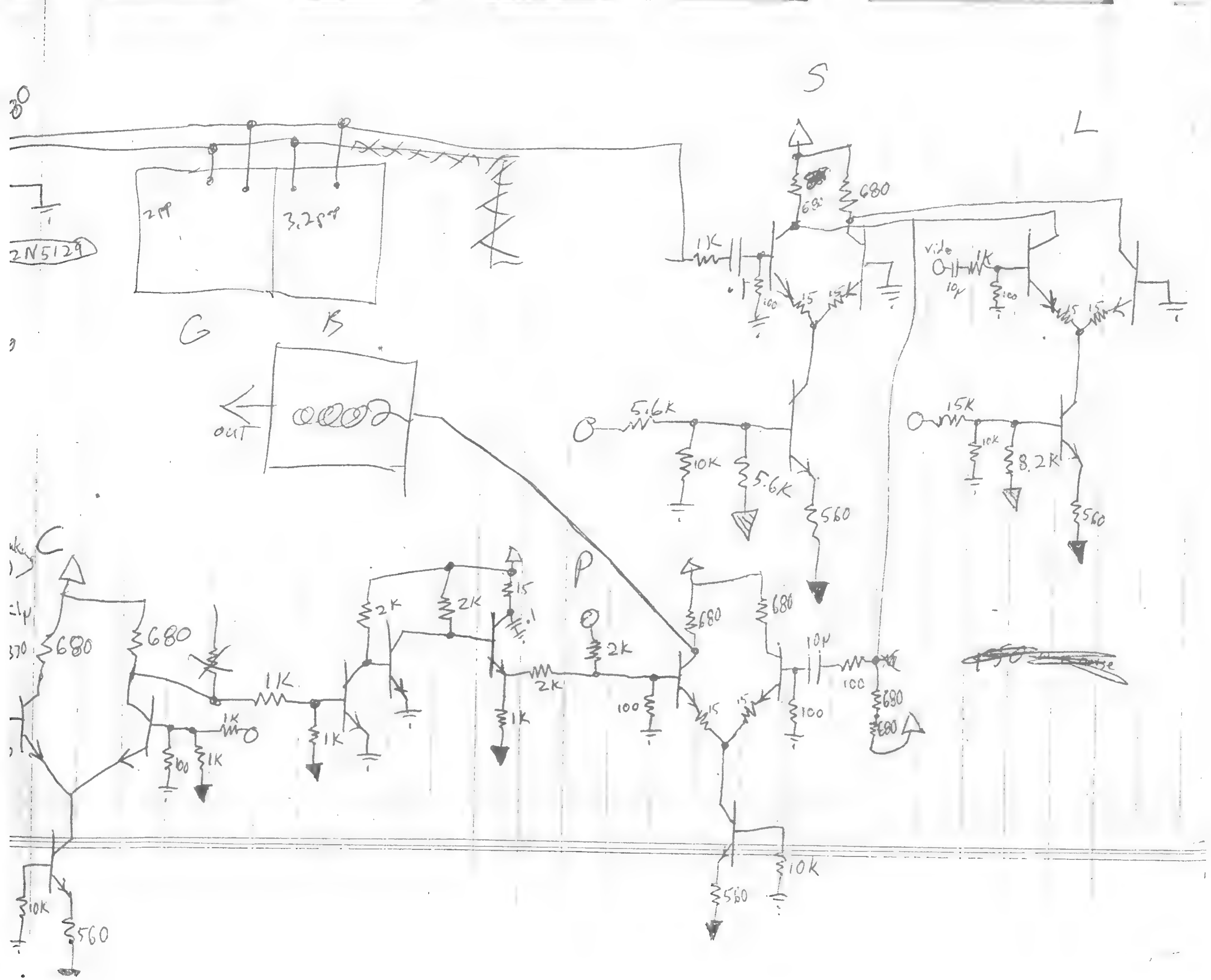




R, G, B,
R, G, B,
Same
Same
Saturation
Y
Video in
Video in
Blanking
Clip
Pedestal
Out
680 ½ watt
4330 Ω
2N3646
All others 2N5129



2.6vpp
2K
300
680
680
15
15
2N5129
5.6K
10K
5.6K
56Ω
R
2pF
3.2pF
G
B
OUT
S
68
680
1K
.1
100
15
15
vide
10µ
1K
100
5.6K
10K
5.6K
560
15K
Blank
C
1µ
370
680
680
100
100
1K
1K
1K
1K
2K
2K
15
.1
2K
1K
P
2K
100
680
680
10µ
100
680
680
15
15
100
10K
560
10K
560
= -5
= -12
= +12



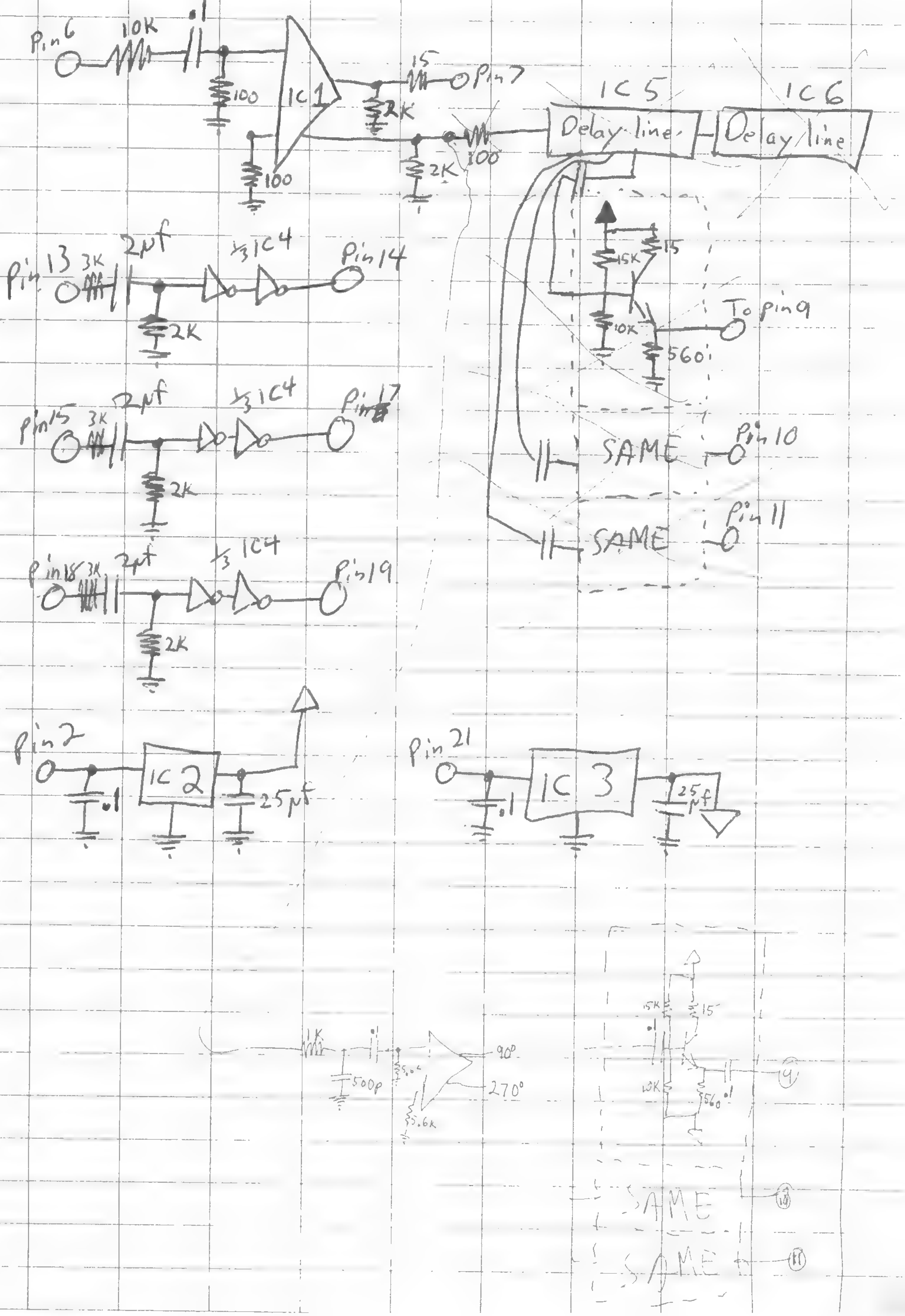
2N5129
2pF
3.2pF
G
B
OUT
S
L
C
P
vide
10µ
1K
100
15
680
5.6K
10K
560
15K
8.2K
2K
.1
10K

1/11/75

Colorizer #1
Sync. board

1	⏚
2	unREG +15
3	+5
4	12
5	-5
6	3.58 in
7	3.58 To outputted
8	⏚
9	Red
10	Blue ~~Green~~
11	Green
12	⏚
13	B.F. IN
14	B.F. out
15	Sync IN
16	⏚
17	Sync Out
18	B.L. in
19	B.L. out
20	⏚
21	unREG -15
22	⏚

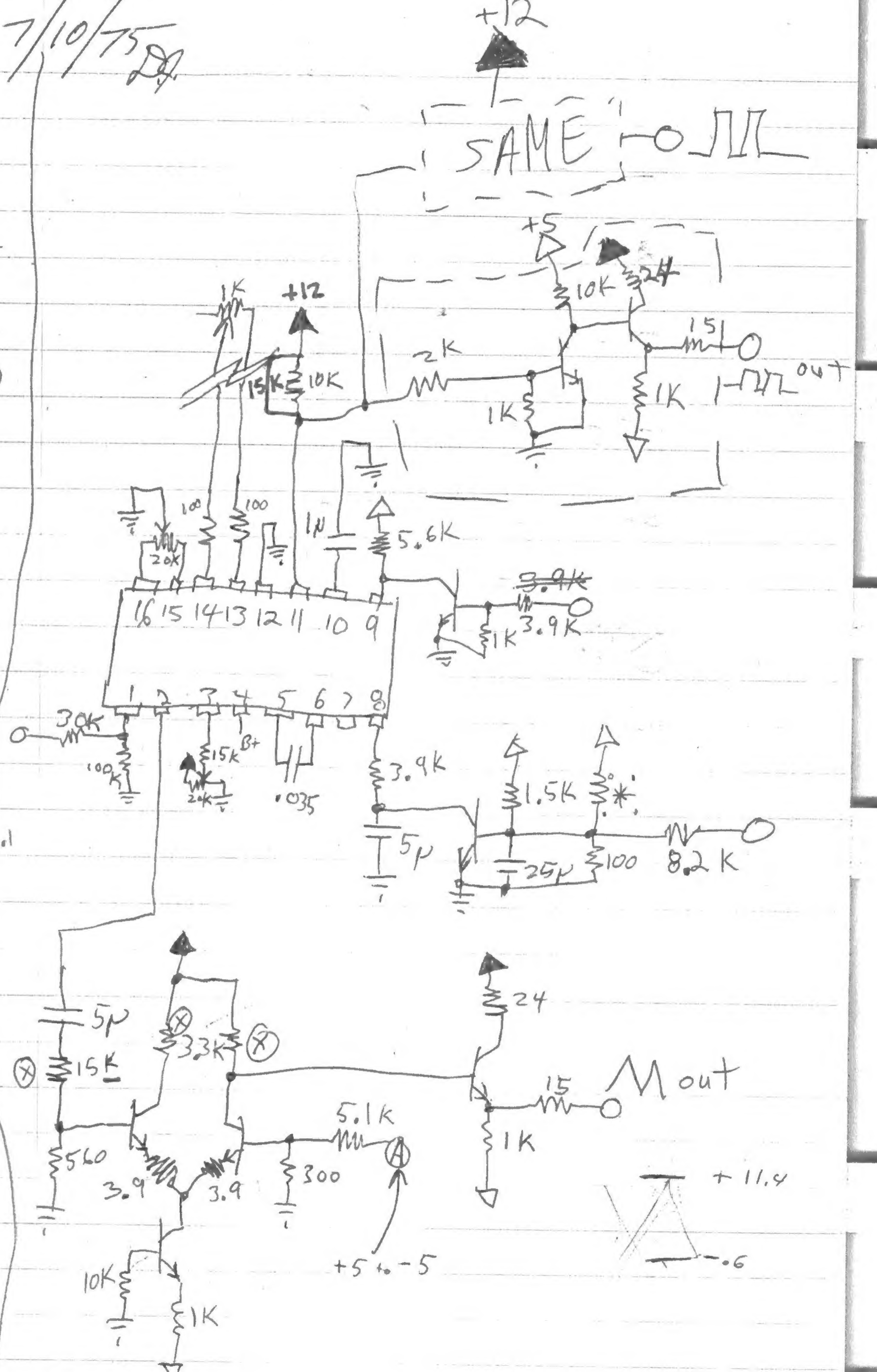
I	C
1	1410
2	340-5
3	320-5
4	7404
5	rhomb Delay lines
6	



Oscillator 2 prototype II

7/10/75 DA

Pin	
1	⏚
2	+12
3	+5
4	−5
5	(−12)
6	
7	
8	
9	
10	Freq. A Control
11	Freq B input
12	FSK input
13	A.M. input
14	} to sine ~~triangle~~ control
15	
16	triangle out
17	⊓⊓⊓ 12v out
18	⊓⊓⊓ 5v out
19	Ped. Control
20	
21	
22	⏚



△ +5

▽ −5

▲ +12

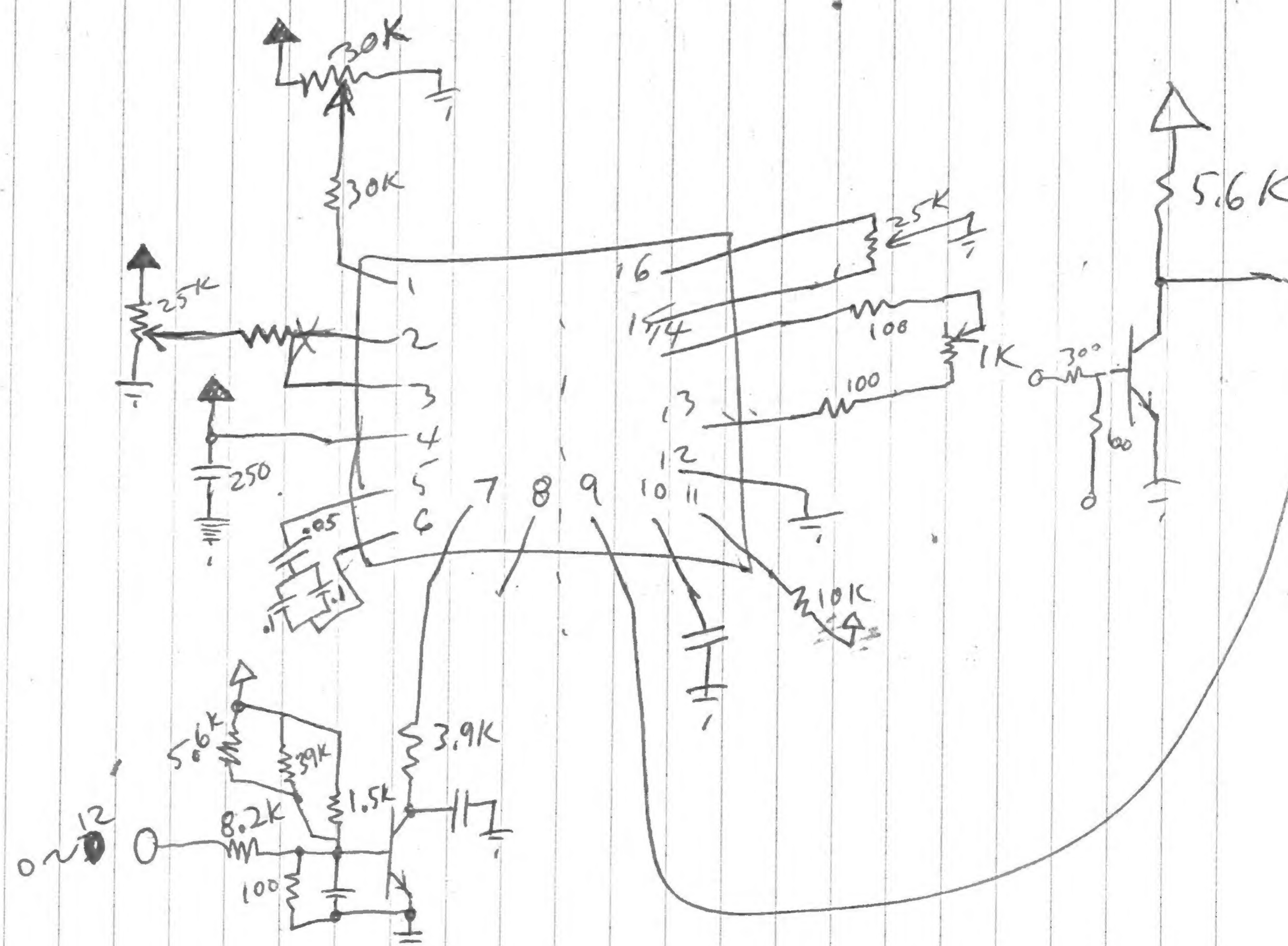
▼ −12

ground

* must be adj. for full range

X might need adj.

A −5 ~ +5 for ped. control


30K
30K
25K
250
.05
.1
.1
5.6K
39K
1.5K
3.9K
8.2K
100
12
1
2
3
4
5
6
7
8
9
10
11
12
13
14
16
25K
100
100
1K
300
60
5.6K
10K

Oscillator 2 prototype II

1 (ground)
2 +12
3 +5
4 -5
5 -12 optional
6
7
8
9
10 Freq. A Knob
11 Freq. B input
12 F.SK in
13 A.M. in
14 } to
15 } sine/triangle Knob
16 (sawtooth) out
17 (square) 12v out
18 (square) 5v out
19
20
21
22 (ground)